

Caring for Trees in a Drought

Trees are generally the most valuable asset in the home and business landscape and when their health declines, the most difficult and expensive to replace. Considering their value, and the time needed to grow to maturity, ensuring the survival of shade trees should be a top priority for landscape professionals. According to local certified arborists, a typical large tree in the Sacramento valley has a replacement value ranging from several to tens of thousands of dollars. During times of drought, landscape retention decisions should be made based on value, risk assessment, and the cost and ease of replacing assets of equivalent size.

With Governor Brown's recent declaration "This [is an] emergency and I'm calling all Californians to conserve water in every way possible." It is imperative that professionals are able to both meet his call to action as well as preserve the irreplaceable mature tree canopy.

STEPS FOR CONSERVING WATER AND GROWING HEALTHY TREES

Whether trees are planted in turf, mixed beds, or alone, the following steps will help to conserve water while also improving the tree's ability to utilize the water it is offered.

Choose Species Wisely

Whenever possible, select species that are well adapted to arid climates. Native plants are not always drought resistant, so base decisions on water needs, and not necessarily on origin of the species.

Improve Soil Structure

Properly aerated soil is an essential factor for the functioning of a tree's root system and water permeability.

- Remove excess soils burying the flare of the tree trunk in a careful manner to minimize damage to the root system.
- Remove rocks and other impervious materials from beneath the tree canopy.
- Aerate the lawn so that roots of mature trees are better able to access water and oxygen.

Reduce Competition

- Remove all weeds and grass within four feet of the base of young trees. For trees planted alone or in mixed beds, this is also recommended.

Mulch

Leaves and chipped wood are ideal mulch materials. Organic mulch will break down and create nutrient-rich compost that will keep soil evenly moist, conserve water, and insulate roots while providing essential nutrients for the tree.

- Place mulch 4 to 6" deep, keeping it 4" away from the trunk, around all trees where the landscape allows.

Monitor Soil Moisture

- Place a shovel, small spade or a screw driver into the soil to a depth of 6–8" (near the trunk for a young tree and under the drip line for a mature tree).
- Squeeze a handful of soil, if it feels dry and crumbly add water.

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Recently Governor Brown proclaimed, “This year, we celebrate Arbor Day as the state confronts one of the most severe droughts on record. In the spirit of preserving trees for future generations, Californians are advised to honor this occasion by planting drought-tolerant trees and learning best practices in caring for trees during a water shortage.”

All trees need regular, deep watering when soil moisture is low. The best watering solution is a dual system of drip emitters and sprinklers which maximizes irrigation efficiency for young and maturing trees. However, as water restrictions increase we must utilize other watering techniques to ensure trees, whether newly planted or mature, receive the water they require to survive.

YOUNG SAPPLINGS (*between one and three years of age*) and **MATURING TREES** (*ages 4 to 15*)

It is imperative that young trees receive water regularly to their root ball throughout their first three years in the ground.

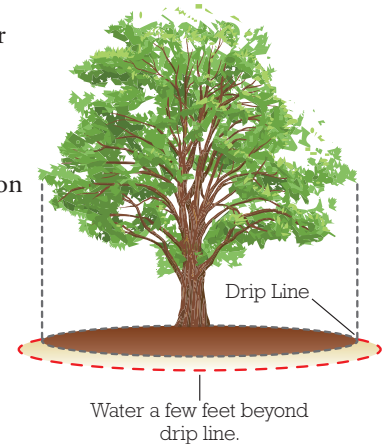
- Apply five to ten gallons of water per week during mild weather. During the hot summer months, young trees may require up to 15 gallons of water per week. Lawn watering does not provide sufficient water for a young tree as the root area is not extensive enough to absorb water irrigated over a large area.
- The best way to focus water on the tree's rootball is to form a small temporary earthen berm/watering well around the tree, about 3–4 feet in diameter and about 4–6 inches high. Fill it slowly by placing a garden hose near the base of the trunk and set it at a slow flow.
- As trees grow, expand the temporary earthen berm to cover the enlarged root system or apply water to the soil outside the edge of the root ball to one foot beyond the drip line (the soil beneath the edge of the leaf canopy). Increase the amount of water to soak the expanding root area to a depth of at least 8 inches.



MATURE TREES (*A mature tree is defined as fifteen years or older.*)

Mature trees vary widely in their need for water, depending on size, age, species, soil types and slope. The water needs of most tree species planted in turf are generally met by the relative high water needs of turf. With restricted water use, it is likely turf will no longer be irrigated. This could have drastic effects on mature trees that are used to regular lawn watering. During this time, it is very important to deeply water the tree.

- The best way to water a mature tree is to apply water slowly and uniformly using low-volume application equipment. One option is to use an oscillating sprinkler attachment. Set it below the drip line of the tree (the soil beneath the edge of the leaf canopy) and make sure the rotation of water reaches a few feet beyond the drip line. Allow the water to penetrate the soil under the tree until it is saturated to a depth of 16-18 inches. Using this method, move the sprinkler to various areas under the drip line to ensure all roots are receiving water..
- The general rule for mature trees is deep, infrequent irrigation. Frequency of watering depends on temperature, shade cover and presence of mulch. Trees need oxygen as much as water. Allow the soil to dry between waterings — for most mature trees one to two deep waterings per month is adequate.



If you are concerned about the health of a mature tree, your best choice is to hire a Certified Arborist. A list of Certified Arborists by zip code can be found listed at www.treesaregood.org.

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